

REMARKS

This Amendment is responsive to the Office Action mailed June 27, 2008. After entry of this Amendment, claims 1, 8, and 12 are pending in this application and subject to examination. Claims 2-7, 9-11, and 13-20 are cancelled. Claim 1 is amended to place it in better form for allowance and to incorporate the features of cancelled dependent claims 6, 7, 10, 13, 14, 18, and 19. Support for the term "homogenous" in amended claim 1 is found at page 10, lines 21-27 of the present specification. Claims 8 and 12 are amended to place them in better form for allowance. No new matter has been added.

Reconsideration of the application as amended is respectfully requested in view of the following remarks.

Rejection Under 35 U.S.C. § 102(b)

Claims 1, 3, 6, 8, 10, 12, 13, 15, 17, and 18 stand rejected as anticipated by U.S. Patent No. 3,957,876 to Rapoport et al. (Rapoport). This rejection is moot as to claims 3, 6, 10, 13, 15, 17, and 18, which are cancelled. Applicants respectfully traverse as to claims 1, 8, and 12.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *See* MPEP § 2131, citing *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Claim 1 was amended to incorporate the features of dependent claims 7, 14, and 19, which are cancelled. As such, amended claim 1 now requires (1) the continuous removal of unconverted cyclohexane and water formed as a by-product from the top region of the rectification column during the oxidation, (2) separation of this unconverted cyclohexane and water by means of a phase separator, (3) recycling of this unconverted cyclohexane into the reaction zone via the top region of the rectification column as reflux. Rapoport neither expressly nor inherently teaches any of these features, as implicitly acknowledged by the Examiner in her rejection of only claims 1, 3, 6, 8, 10, 12, 13, 15, 17, and 18 over this reference. Since Rapoport fails to either expressly or inherently teach every element of amended claim 1, this reference does not anticipate amended claim 1. Furthermore, since claims 8 and 12 both depend directly

from amended claim 1, they are likewise deemed novel and patentable over Rapoport.
Applicants respectfully request withdrawal of this rejection.

Rejection Under 35 U.S.C. § 103(a)

Claims 1, 3, 6-8, 10, and 12-20 stand rejected under 35 U.S.C. § 103(a) as obvious over U.S. Patent No. 3,349,007 to Ciborowski et al (Ciborowski) in view of Rapoport and U.S. Patent No. 5,449,501 to Luebke et al. (Luebke) and further in view of U.S. Patent No. 2,931,834 to Crouch et al. (Crouch) and Hawley's Condensed Chemical Dictionary, 12th ed., 1993, p. 1139 (Lewis). This rejection is moot as to claims 3, 6, 7, 10, and 13-20, which are cancelled.
Applicants respectfully traverse as to claims 1, 8, and 12.

Applicants maintain the position that claims 1, 8, and 12 are non-obvious and patentable over the combination of references cited by the Examiner for the reasons given in the Amendment of March 14, 2008 and incorporate herein by reference those remarks in their entirety.

The Examiner finds the Applicants arguments unpersuasive on the ground that Luebke teaches that its apparatus can be used to perform any reaction amenable to catalytic distillation, including any exothermic reaction that occurs primarily in the liquid phase and produces a reaction product less volatile than the feed compounds. However, the Ciborowski process involves more than simply oxidizing cyclohexane. In the Ciborowski process, vapors of the distilled substance are compressed by means of an injector fed by vapors of the same substance. These vapors are subsequently condensed in the heating coil of the distilling container. By doing this, the Ciborowski process eliminates any need to separate the condensate obtained by liquefaction of the vapors, making it possible to avoid losses of cyclohexane associated with such separation. See column 1, lines 47-56 of Ciborowski. The Examiner also asserts that she is not proposing a substantial redesign and reconstruction of the Ciborowski apparatus, but rather *"a substitution of the Ciborowski apparatus with the Luebke column."* Applicants fail to see how such a wholesale substitution does not render the Ciborowski apparatus unsatisfactory for its intended purpose or does not change its principle of operation, as pointed out *supra*. As such,

(1) there can be no motivation to the skilled artisan to make such a substitution and (2) the Examiner has failed to show that the combined teachings of the cited references render the claims *prima facie* obvious. See MPEP §§ 2143.01 (V) and (VI). Applicants respectfully request withdrawal of this rejection.

In view of the foregoing amendment and remarks, Applicants believe the pending application is in condition for allowance.

The Director is authorized to charge \$130.00 to cover the one-month extension fee required by 37 C.F.R. § 1.17(a)(1). Should any other fees be required in connection with this Amendment, authorization is hereby made to charge any fees due or outstanding, including any extension fees, or credit any overpayment, to Deposit Account No. 03-2775, under Order No. 12810-00027-US1, from which the undersigned is authorized to draw.

Dated: October 27, 2008

Respectfully submitted,

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